



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,539	05/31/2001	Akihiro Tada	70181	8903

7590 12/17/2002

McGLEW AND TUTTLE, P.C.
SCARBOROUGH STATION
SCARBOROUGH, NY 10510

EXAMINER

NOTE, JANIS L

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 12/17/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,339

Applicant(s)

TADA et al

YB

Examiner

J. DOTE

Group Art Unit

1756

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 10/10/02
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-25 is/are pending in the application.
- Of the above claim(s) 7-21, 25 is/are withdrawn from consideration.
- ☐ Claim(s) is/are allowed.
- ☒ Claim(s) 1-6, 22-24 is/are rejected.
- ☐ Claim(s) is/are objected to.
- ☐ Claim(s) are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☒ All ☐ Some* ☐ None of the:
 - ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2 ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other _____

Office Action Summary

1. This office action is responsive to applicants' response filed in Paper No. 7 on Oct. 10, 2002. Claims 1-25 are pending.

2. Applicants' election of the invention of Group I, claims 1-6 and 22-25, filed in Paper No. 7 on Oct. 10, 2002, is acknowledged. Because applicants did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 7-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. This election in Paper No. 7 has been treated as an election made **without** traverse.

3. The elected species set forth in Paper No. 7 is acknowledged, wherein the elected species is a toner comprising the chromium monoazo compound disclosed in example 1 of the instant specification.

Claim 25 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to a non-elected species. This election in Paper No. 7 has been treated as an election made without traverse.

3. The references to Hifu, Eiseikagaku, Environ. Dermatol., Contact Dermatitis, Environmental Dermatology 1994, and Environmental Dermatology 1998 have been deleted from the form PTO-1449 filed Jun. 22, 2002, attached to Paper No. 2, and have not been considered by the examiner, because the listings of said references do not comply with 37 CFR 1.98(b)(5). "Each publication listed in the information disclosure statement must be identified by publisher, author (if any), title, relevant pages of the publication, and date, and place of publication" (emphasis added). ("Place of publication refers to the name of the journal, magazine, or other publication in which the information being submitted was published." MPEP 609 A(1), page 600-121.)

For example, the first reference to Environ. Dermatol. should have been listed as:

K. Ueda, et al., "Two cases of pigmented contact dermatitis," Environmental Dermatology, Vol. 2, 1995, pp. 278-282.

Since the submission of the information disclosure statement appears to be *bona fide*, applicants are given **ONE (1) MONTH** from the date of this notice to supply the abovementioned omissions or corrections in the information disclosure statement. **NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37**

CFR 1.136(a) or (b). Failure to timely comply with this notice will result in the abovementioned information disclosure statement being placed in the application file with the noncomplying information **not** being considered. See 37 CFR 1.97(i).

4. In light of the disclosure in the instant specification, the examiner interprets the limitation "incidence of skin sensitization in a skin sensitization potential test . . . being not more than 20%" recited in the instant claims to mean the ratio of test samples having skin reactions or sensitization when exposed to the test compound in a set number of test samples. The instant specification discloses that in the sensitization potential test based on the maximum method, the "rating results are expressed as the ratio of guinea pigs with signs of skin sensitization by the test compound." See the instant specification, page 9, lines 3-15. If applicants do not agree with the examiner's interpretation, they should clearly state so and indicate where there is antecedent basis for their definition.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and

potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-6 and 22-24 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,426,169 B1 (Onuma)

Onuma discloses a toner comprising a binder resin, a colorant, and the iron monoazo compound (1). See example 1 at col. 34. The iron monoazo compound (1) is within the compositional limitations of formula (1) recited in instant claim 5. See preparation example 1 at cols. 26 and 27. Onuma further discloses that the counterion of the iron monoazo compound can be replaced with H⁺. Col. 3, lines 35-36. The resulting iron monoazo compound is within the compositional limitations recited in instant claim 6.

Onuma does not disclose that its iron monoazo compound (1) has the incidence of skin sensitization or the purity determined by high performance liquid chromatography (HPLC) recited in the instant claims. However, Onuma discloses that after its iron monoazo compound (1) has been made, the product is dispersed in isopropanol. The dispersion solution is heated to 70°C for dissolution. The heated solution is cooled to precipitate the azo iron compound. The compound is filtered from the solution and washed with water and dried. The resulting monoazo iron compound 1 exhibited a crystallinity of 68.0%. Col. 26,

lines 59-67. Onuma teaches that its iron monoazo compound "shows good dispersibility in the toner and can provide the toner with a good charge distribution, a stable initial charge increase characteristic and a good developing performance." Col. 3, lines 37-40. The toner provides high density toner images having reduced fog that are stable for long periods without being influenced by changes in temperature and humidity. Col. 2, lines 21-32, and Table 5 at col. 37, example 1. In example 1, the toner comprising Onuma's iron monoazo compound 1 provides 15,000 images stable in image density under the conditions of a high temperature of 32.5°C and a high humidity of 80% RH and under the conditions of a low temperature of 15°C and a low humidity of 10% RH. Under the conditions of low temperature and low humidity, the produced images exhibit little fog. See Onuma's Table 5, example 1.

The instant specification discloses that its monoazo metal complex having the incidence of skin sensitization and the purity recited in the instant claims can be obtained "by removing impurity substances [e.g., reaction by-products] other than monoazo metal complex compounds using an alcoholic organic solvent." The specification discloses that the impurities can be removed by the steps: "the monoazo metal complex is dispersed in the alcoholic organic solvent; the resulting dispersion is stirred under heating and filtered, after which the cake filtered

out is dried under reduced pressure." Specification, page 9, line 22, to page 10, line 3. According to the instant specification, a toner comprising its monoazo metal complex as a charge control agent "possesses a practically satisfactory charge characteristic, is sharp in charge amount distribution, high in charge amount uniformity, excellent in charge rise profile, low in environmental dependency, excellent in durability in multiple repeated use, and good in fixability and offset quality." See the instant specification, page 6, lines 11-14. The specification exemplifies a toner comprising a monoazo chromium complex having a 10% incidence of skin sensitization and a purity of 94.2%. According to the specification, "when the toner was used to repeatedly form images, the charge rise profile, charge stability and sustainability were good, the image density was stable from the initial time to completion of continuous copying, and high quality images with no fogging etc. were obtained." See the specification, page 32, lines 8-12.

Accordingly, because Onuma's iron monoazo complex is processed by a method similar to that disclosed in the instant specification to remove impurities and provides toners that appear to have the same or similar properties sought by applicants, it is reasonable to conclude that Onuma's iron monoazo compound has the incidence of skin sensitization and purity recited in the instant claims. The burden is on

applicants to provide otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

9. Claims 1-6 and 22-24 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 2001/0004667 A1 (Okubo)

Okubo discloses a toner comprising a binder resin, a colorant, and a charge control monoazo metal compound, namely the iron monoazo compound (1). See example 3 in paragraphs 0173-0179. The iron monoazo compound (1) has an electroconductivity of 10 μ S/cm when dispersed in ion-exchanged water at 1 wt%. The iron monoazo compound (1) is within the compositional limitations of formula (1) recited in instant claim 5. See preparation example 2 in paragraph 0159. Okubo further discloses that the charge control monoazo metal compound can equally be the chromium monoazo compound (2) in paragraph 0024. Said chromium monoazo compound (2) is within the compositional limitation recited in instant claim 6 and appears to meet the compositional limitation of example 1 of the instant specification, the elected species.

Okubo does not disclose that its monoazo metal compounds (1) and (2) have the incidence of skin sensitization or the purity recited in the instant claims. However, Okubo discloses that after its monoazo metal compounds have been made, the products

are further processed by method comprising the steps of filtrating using a centrifugal filtrating machine and washing with water to remove the impurities from the compounds such that the compounds have an electroconductivity of at most 110 $\mu\text{S}/\text{cm}$. Paragraphs 0026 and 0159. Okubo discloses that toners comprising its metal monoazo compound having the particular electroconductivity provide stable images for a long time without being influenced by changes in temperature and humidity. The toners have improved "building-up of chargeability" and "a stable charging performance." See Okubo, paragraphs 0013 and 0020. In Okubo's example 3, the toner comprising Okubo's monoazo metal compound having an electroconductivity of 10 $\mu\text{S}/\text{cm}$ provides images of the same quality with no fogging: under the conditions of a high temperature of 30°C and a high humidity of 80% RH; under the conditions of a low temperature of 10°C and a low humidity of 30% RH; and under normal conditions. Okubo also shows that when the monoazo metal compound has an electroconductivity greater than 100 $\mu\text{S}/\text{cm}$, the toner provides images having a lower image density under the conditions of a high temperature and a humidity. See comparative example 1 in paragraphs 0180-0186.

The instant specification discloses that a toner comprising its monoazo metal complex as a charge control agent has "practically satisfactory charge characteristic, is sharp in

charge amount distribution, high in charge amount uniformity, excellent in charge rise profile, low in environmental dependency, excellent in durability in multiple repeated use . . .". The discussion of the instant specification in paragraph 8 above is incorporated herein by reference.

Accordingly, because Okubo's monoazo metal compounds provide toners that appear to have the same or similar properties as sought by applicants, it is reasonable to conclude that Okubo's monoazo metal compounds have the incidence of skin sensitization and purity recited in the instant claims. The burden is on applicants to provide otherwise. Fitzgerald, supra.

10. Claims 1-5 and 22-24 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,120,958 (Ookubo).

Ookubo exemplifies a toner comprising a binder resin, the coloring agent carbon black, and the iron monoazo compound (C). See example 1 at cols. 13-14. The iron monoazo compound is within the compositional limitations of formula (1) recited in instant claim 5. Col. 3, lines 5-20, and col. 13, lines 9-45.

Ookubo does not disclose that its iron monoazo compound has the incidence of skin sensitization or the purity recited in the instant claims. However, Ookubo discloses that after the sodium salt of iron monoazo compound is made, it is filtered. The

compound is then dispersed in a solution comprising water, ethyl alcohol, and ammonium sulfate. The mixture is stirred at a temperature of from 75 to 80°C for 4 hours to carry out counterion exchange. The obtained product is collected by filtration and washed with water and dried under reduced pressure at from 50 to 60°C. Col. 13, lines 30-39. According to Ookubo, a toner comprising its iron monoazo compound (C) can be "electrified to a proper level instantaneously, whereby the triboelectric performance will not deteriorate even when it is left to stand for a long period of time." Col. 2, lines 2-5. For example, in example 1, the toner comprising Ookubo's iron monoazo compound (C) has an initial blow-off charge of -21.5 $\mu\text{C/g}$ and a charge after 3 hours of -25.3 $\mu\text{C/g}$. See example 1.

The instant specification discloses that its monoazo metal complex having the incidence of skin sensitization or the purity recited in the instant claims can be obtained "by removing impurity substances other than monoazo metal complex compounds using an alcoholic organic solvent." According to the instant specification, a toner comprising its monoazo metal complex as a charge control agent has "practically satisfactory charge characteristic, is sharp in charge amount distribution, high in charge amount uniformity, excellent in charge rise profile, low in environmental dependency, excellent in durability in multiple

repeated use . . .". The discussion of the instant specification in paragraph 8 above is incorporated herein by reference.

Accordingly, because Ookubo's iron monoazo compound is processed by a method similar to that disclosed in the instant specification and provides toners that appear to have the same or similar properties as sought by applicants, it is reasonable to conclude that Ookubo's iron monoazo compound has the incidence of skin sensitization and purity recited in the instant claims. The burden is on applicants to provide otherwise. Fitzgerald, supra.

11. Claims 1-6 and 22-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,843,611 (Sukata).

Sukata exemplifies a toner comprising a binder resin, the coloring agent carbon black, and a monoazo chromium composition as the charge control agent. See example C at col. 19. The monoazo chromium composition comprises a 6:4 chromium monoazo compound, a 3:2 chromium monoazo compound, and a 2:1 chromium monoazo compound. The 2:1 chromium monoazo compound is within the compositional limitations of formula (1) recited in instant claim 6. See Sukata, example 5 at col. 18.

Sukata does not disclose that its monoazo metal compounds have the incidence of skin sensitization or the purity recited in the instant claims. However, Sukata discloses that after the

monoazo metal compounds are made, they are filtered and washed with water and dried. The compounds are then washed with methanol using a Soxhlet extractor and dried. See example 5. Sukata's toner comprising its chromium monoazo compounds has excellent chargeability, environmental resistance, storage stability, and durability. Said toner provides high quality toner images free of density reduction and fogging for many repeated cycles. Col. 6, lines 2-7, and example C. For example, in example C, according to Sukata, when the toner is used for repeated cycles of imaging, "high quality images free of density reduction and fogging were obtained, with good charge stability and sustainability. The offset phenomenon was not noted." Col. 19, lines 48-51.

The instant specification discloses that its monoazo metal complex having the incidence of skin sensitization or the purity recited in the instant claims can be obtained "by removing impurity substances other than monoazo metal complex compounds using an alcoholic organic solvent." According to the instant specification, a toner comprising its monoazo metal complex as a charge control agent has "practically satisfactory charge characteristic, is sharp in charge amount distribution, high in charge amount uniformity, excellent in charge rise profile, low in environmental dependency, excellent in durability in multiple

repeated use . . .". The discussion of the instant specification in paragraph 8 above is incorporated herein by reference.

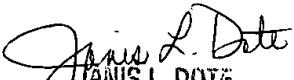
Accordingly, because Sukata's chromium monoazo compounds are further processed by a method similar to that disclosed in the instant specification and provide toners that appear to have the same or similar properties as sought by applicants, it is reasonable to conclude that Sukata's chromium monoazo compounds have the incidence of skin sensitization and purity recited in the instant claims. The burden is on applicants to provide otherwise. Fitzgerald, supra.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.

JLD
July 27, 2002


JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1500
1700